

ABSTRACT

An apparatus and method for determining if a stone mounted in an electrically conductive mounting is a true diamond employs a housing to be held in one hand of a user while the other hand holds the mounting. An electrically and thermally conductive probe extends from the housing. The probe is held against the surface of the stone. Two assemblies connected to the probe measure sequentially to determine the thermal conductivity of the stone and the electrical conductivity of the stone. Displays indicate if the assemblies detect the high thermal conductivity of the stone consistent with diamond and the low electrical conductivity of the stone consistent with diamond. This apparatus distinguishes true diamond over such imitations as cubic zirconia with a lower thermal conductivity and moissanite with a higher electrical conductivity.